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ABSTRACT

The relationship between educational policy and instructional practice is explored in this paper, with a focus on the impact of state and federal policies on instruction. The relationship between government structure and policymaking is discussed in the first section, which concludes that conflict between rapidly expanding policymaking and fragmented governance is a hallmark of American education. The next three sections examine relations between policy and practice in terms of the following topics: (1) the specific sources of guidance for instruction; (2) changes in classroom practice as proposed by recent U.S. reforms; and (3) nongovernmental influences on instruction. A conclusion is that current reform efforts generally move toward greater state/national control of education. Reformers share the assumption that U.S. education is flawed and have offered proposals for far-reaching changes; the problem is the lack of availability of resources for radical change. Due to inherent systemic weaknesses such as politics and problems in instructional practice and guidance, grand visions collide with limited capacities for change. Reform efforts to reduce fragmentation are thus more likely to add several new and unrelated layers of requirements, creating further clutter and inconsistency. Drastic reform is possible but requires time, money, commitment, development of new texts, new exams, new curricula, much more attention to professional development, focus on long-term goals, reduction in the number of policies, a new vision, and patience. (LMI)

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POLICY AND PRACTICE: THE RELATIONS BETWEEN GOVERNANCE AND INSTRUCTION *

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INTRODUCTION

Ours is a time of remarkable ferment in US education. The recent school reform movement initially focused on the "basics," but then took off in a dramatically new direction in the late 1980s. Reformers started to demand more thoughtful and intellectually ambitious instruction. Leaders in politics and business argued that students must become independent thinkers and enterprising problem solvers. Educators began to say that schools must offer intellectually challenging instruction that is deeply rooted in the academic disciplines.

These ideas are a dramatic change. For most of this century politicians and businessmen ignored public education, or supported only minimum programs for most students. And most leaders in education long have been inclined to the view that most students needed basic and practical education, rather than more high-flown and demanding stuff. These tendancies were entirely representative. Though the American people have been enthusiasts for schooling, few have been keen on intellectually ambitious education.

More unusual still, recent reformers have proposed fundamental changes in politics and policy to achieve the new goals. They argue for the creation of state or national curricula, to push instruction to new heights. Or they advocate state or national tests or examination systems, to pull instruction in the same direction. Or they propose to link examinations and curricula so as to gain even more leverage on teaching and learning. Prominent politicians, businessmen and professors have endorsed one or another of these proposals. Several state and national agencies have begun to implement them. Major efforts are underway to mobilize much more coherent and powerful direction for instruction from state or national agencies.

These developments seem hopeful to some and unwise to others. But everyone agrees that they mark an astonishing reversal, and many therefore wonder whether the new proposals are attainable. One set of problems concerns politics. Power and authority have been extraordinarily dispersed in US education, especially in matters of instruction. Could state or national agencies actually mobilize the influence required to steer teaching and learning in thousands, or hundreds of thousands of far-away classrooms? That would require extensive new state or national infrastructure in education, as well as a radically new politics of education. Are such things possible?

A second set of problems concerns instructional practice. The new proposals envision much more thoughtful, adventurous, and demanding instruction. But most instructional practice in the US is quite traditional: Teachers and students spend most of their time with lectures, formal recitations, and worksheets. Intellectual demands generally are modest, and a great deal of the work is dull. Only a modest fraction of public school teachers have deep knowledge of any academic subject. Hence even if state or national agencies accumulated the infrastructure and influence required to steer teaching and learning, could they be steered so sharply away from long established practice?

To answer these questions about how things might change one must ask others about how they now work. How do instructional policies made in state and national agencies play out in local classrooms? What are the relations between policy and practice. What might it take to change them? Have central agencies ever tried to promote innovative and adventurous teaching? If so, with what results? These seem crucial issues for America today and tomorrow, but our knowledge about them is limited by what we did yesterday. The decentralized organization of American education rendered the connections between policy and instruction inconsequential for most of our history. The topic barely entered educational inquiry because it seemed so distant from educational reality. There is little American evidence about the structure or consequences of much greater state or national control. Similarly, American disdain for intellectually challenging education has left us with only modest evidence on how such education might turn out in this nation's schools. In order to learn much about such matters we must look beyond the US education mainstream, and to studies of other national school systems.

We tackle the issues in four chunks. First we probe the relations between state and national government on the one hand and instruction on the other. We explore how the structure and activities of central government affect classroom practice. But in some systems, key decisions about instruction, like what texts to read, or what tests to use, are made by no central agency. Hence in the second chunk of the essay we identify the specific sources of guidance for instruction, including tests, texts, and other things. We explore how such things interact with governance structures, and we probe their effects on clasroom practice.

In the third chunk of the essay we scrutinize change in classroom practice. The recent US reforms propose very ambitious shifts in instructional purposes, processes, and content: We inquire about the prospects for such change in teaching.

Finally we consider nongovernmental influences on instruction. Recent reformers have proposed radical changes in policy, politics, and instructional guidance, seeing these as potent influences on classroom work. Yet studies of schooling here and abroad often suggest that social and cultural influences may be no less significant. For instance, some researchers report that Japanese families tend to support childrens' hard work and academic achievement while Americans tend not to. Such differences may account for many of the effects often ascribed to policy and institutions.

I. GOVERNMENT STRUCTURE AND POLICYMAKING

The formal institutions of government are widely supposed to shape the relations between education policy and instructional practice. In France and many other nations, central agencies have enormous authority and power. Ministries of education make most policy for local education, and they often do so in great detail. But the US political system was specifically designed to frustrate central power. Authority in education was divided among state, local, and federal governments by an elaborate federal system, and it was divided within governments by the separation of powers. These divisions were carefully calculated to inhibit the coordinated action of government, and they gained force from the country's great size and diversity (Kaufman, 1963, 1969).

The US federal government thus has had relatively weak influence on education, as a matter of both law and tradition. But since World War II the central government has accumulated increasing influence on state and local decisions about funding, education for disadvantaged groups, civil rights and civil liberties in schools, research, and curriculum improvement. Despite these changes, direct federal governance of education is marginal. Federal agencies directly operate few schools and contribute only a little more than six percent of school operating budgets, on average (US Bureau of the Census, 1988).

State governments are the constitutional center of US education. But most states delegated most authority to localities, for most of their history. States supported the establishment of public schools with enabling statutes and sometimes a bit of money in the ninteenth century, but most of the pressures to

establish public schools lay outside of state government. There has been some variability in states' influence in education. Hawaii has no local districts, and Southern states tended to be stronger than those elsewhere (Wirt, 1982). But until fifteen years ago the general pattern was extensive delegated state power. Most state agencies were small and weakly staffed (Murphy, 1974; McDonnell and McLaughlin, 1982). State governments have begun to exercise more power during the last decade, but most are still far from what, in world perspective, could be called central control.

Such weakness in higher level agencies is quite unusual. In many nations the national ministry is the senior and often sole partner, managing all educational programs and paying most or all operating costs. In modern France the schools have been a creature of the national government in Paris, not of local or departmental governments. Even state or provincial governments in other federal systems have much greater power and authority. Australian state governments hold most constitutional authority in education, as they do in the US. But the six Australian states also are the basic operating units in education (Cowan and McLean, 1984; Boyd and Smart, 1988). Each state operates all the public schools within its boundaries, performing all the functions that Americans associate with both state and local school government.

The US thus has a remarkably fragmented governance system. Many important educational decisions are made in the nation's roughly 110,000 individual schools (US Bureau of Census, 1988). These include decisions about educational program, student assignment, teacher assignment, and resource allocation among students. One result is remarkable variation across schools. Recent efforts at local "restructuring" and "school-based management" will almost certainly enhance the influence of many schools.

Local districts are the fundamental governance agencies, by tradition and practice. There are some 15,000 (US Bureau of Census, 1988), and their influence is extraordinary in world perspective. Despite the recent growth of state and national power these districts take a great range of decisions, including those that bear on levels of funding, the nature of educational program, and the teachers to be hired. Financial support for most US schools is still tied to local tax bases and taxation decisions, which produces enormous variation in educational resources and thus instructional programs. The key role of local districts builds great variation into US education.

Individual schools and districts have had much less influence in most other nations. The French and Singaporean ministries of education have monopolized decisions about educational program, teacher assignment and resource allocation. Local schools have had little leeway within central guidelines, a condition that some nations have begun trying to change (Resnick and Resnick, 1985; Resnick and Resnick, 1989; Cohen, 1989a). And many nations simply have no local districts. Australian state education departments deal directly with each school, though some use regional offices for administrative purposes. Funding decisions typically are made by national or state agencies, greatly reducing or eliminating fiscal and programmatic variation among schools. Some nations with strong central governments do have local jurisdictions that are supposed to play a large role in education. The post-war Japanese constitution guarantees local authority in such educational decisions as teacher hiring and curriculum. But the influence of local prefectures is constrained both by the broad authority of national agencies and centuries-old habits of deference to the center. The result limits educational variation of many sorts (Resnick and Resnick, 1985; Witte, 1989).

In most nations, the relations between policy and practice are framed by systems of central power, or by a small number of powerful state or provincial governments. The authority of the state is immense and in many cases theoretically unlimited. Schools are creatures of the nation-state or the province, and usually were created in the process of consolidating those entities (Meyer, 197?; Rubison, 198?, Ramirez, 198?). The connection between central power and public education is a world pattern to which the local mobilization of schooling in the US is one of the few great exceptions.

Schools here and in Britain were largely a local invention, as much the creatures of communities or social movements as government. Despite growing state and federal power, local government still is the key element in US schooling. And the relations between policy and practice are framed by sprawling government structures in which fragmented power and authority express a considered mistrust of government.

If government structure frames the formal relations between central policy and classroom practice, policymaking fills that frame with specific content. The two are often at odds. While the design of American government incarnates a deep mistrust of state power, the design of most education policy expressed an abiding hope for the power of government, and a wish to harness it to solving social

problems. The most dramatic collisions were precipitated by the proliferation of state and federal education policies and programs in the last three decades. These included federal efforts to improve curriculum and instruction in the 1950s and early 1960s, and to eliminate the racially dual school system throughout the South in the 1960s and 1970s. They also included federal and state efforts to improve education for disadvantaged students, to reform the education of handicapped students, to provide bilingual education for non-English speaking students, and to insure sex equity in schools across the nation. Nearly all of these sought to solve problems that crossed jealously guarded jurisdictional boundaries among and within governments.

To speak of the relations between policy and practice in the US is thus to speak of collisions between policy and governance, and of the consequences in educational institutions. Those collisions have affected the relations between policy and practice in several ways. New educational policies expanded central authority and drew the agencies of policy and practice closer together, but did not commensurately reduce the autonomy of "lower level" agencies. While there was a flood of state and federal policies and programs, it coursed through a large and loosely jointed governance system. Hence agencies throughout the system retained much of their operating independence. For instance, the states depend on localities for political support and policy execution, as any higher-level agent depends on subordinates. State governments therefore should be constrained by what localities will accept. Yet the states often act with remarkable independence. The last ten years' state education reforms were in some respects quite offensive to local educators, but they still were enacted with little difficulty (Fuhrman, Clune, and Elmore, 1986). Similarly, the national government has only a modest constitutional role in education, and it has long deferred to state and local authorities. But federal agencies nonetheless have taken various dramatic initiatives designed to greatly change state and local education. Many were taken over local and state opposition, some over fierce and even violent opposition (Orfield, 1969). Despite the constraints that lower level agencies can impose on their superiors, agencies above have regularly pushed far beyond the presumed limits.

The same phenomenon obtained in reverse: State and local autonomy has been only modestly constrained by higher level policy. Researchers have doccumented the states' great flexibility in responding to the dramatic federal policies and programs of the 1950s and 1960s (Murphy, 1974).

Researchers also have shown that local schools and districts retain considerable lattitude in coping with state and federal policies (McLaughlin, 1987; Berman and McLaughlin, 1977). Despite the increasing flow of higher level requirements, advice, and inducements, lower level agencies have much room to interpret and respond. Relations between state, federal and local agencies therefore remain quite attenuated despite decades of effort to bring them closer together. Centers of organization and governance are widely dispersed and weakly linked, despite the growth of policy. Central agencies can make serious demands on others with relative ease; they need only mobilize the political resources to enunciate a policy or begin a new program. But the costs of enforcing demands are very much greater. A great distance remains between state or federal policymaking and local practice (Firestone, 1990).

Yet policymaking has complicated educational organization. For in order to make contact with local educational organizations, state and federal agencies had to bridge vast political chasms that had been artfully designed to frustrate central power. To increase general governance authority in education was politically unthinkable for the federal government. What is more, federal agencies were weak. They had no general capacity in curriculum, instruction, school personell, or assessment, since both the Constitution and political practice were thought to forbid it. State agencies had much more authority, but with a few exceptions they had little more capacity. Most states had delegated most operations to local governments and private test and text publishers. Traditions of decentralization, suspicions about central power, and deference to local authority meant that higher level authority could only grow by way of individual, free-standing programs, each of which promised to solve a specific educational problem (Bankston, 1982; Meyer, 1983a). But these individual programs were located in agencies that had little general operating capacity in the "technical core" of education.

Hence, when weak federal and state agencies tried to implement such ambitious programs as Headstart and ESEA Title I in a vast and decentralized polity, each program had to be outfitted with its own minimum core of administrative operations: Budget, personell, evaluation, and the like. Furthermore, each program had to coordinate operations across many levels of government, owing to the lack of general administrative capacity above the local level. And each policy or program had to do so in ways that did not require much capacity in the key areas of education like curriculum or instruction, since such things were regarded as off limits to central government. Lacking general central authority and capacity, leaders

of each program had to establish their own systems. Otherwise how could they hope to mobilize tens or hundreds of thousands of educators, in hundreds or thousands of jurisdictions, across several levels of government?

Work in such policies and programs thus was confined within specialized administrative sub-units organized around oversight tasks within each program. Administrative capacity grew, but within programs rather than across entire governments. Administrative burdens therefore multiplied as the same or similar administrative work was repeated across programs (Rowan, 1982; Rowan, 1983; Bankston, 1982; Meyer, 1983a; Cohen, 1989a). Central agencies grew, but in a fragmented fashion. And the administrative expansion added litle to central capacity in the core areas of education like curriculum or instruction. The collisions between optimistic policies and cautiously designed government has produced fractured and duplicative administration.

These fractures were reflected in the organization of agencies outside of government. As policies and programs took shape, networks of interested agencies -- advocacy organizations, professional groups, and special purpose research and development agencies among others -- grew up around them. Examples include the loose network that helped to build support for the legislative proposals that became PL 94-142, and Title I of the 1965 ESEA (now Chapter I). Each network has helped to coordinate and stabilize program operations, as well as to mobilize support for programs across governments and among many sorts of agencies (Cohen, 1982; Peterson, Rabe, and Wong, 1986). Like the programs and policies that they grew up around, these policy networks are ingenious, for they support state and national efforts to solve local problems in a political system that was designed to frustrate it. But these clever inventions also encourage political fragmentation, and multiply administrative work (Meyer, 1983a; Bankston, 1982; Rogers and Whetten, 1982; Cohen, 1982). For the networks support fractured authority within education agencies, as managers in each program attempt to build their own bridges across great political chasms. The ingenious devices that cope with fragmentation among US governments tend to exacerbate fragmentation within them.

Collisions between cautious designs of government and hopeful designs for policy also complicated local educational practice. For administrative work grew as localities coped with increasing state and federal policies and programs. Since higher level authorities are so distant from local practice, they are

rarely held accountable for their actions there. Hence state and federal initiatives were generated with little regard for the relations among them, or for their cumulative local effects (Hill, 1980; Kirst, 1983). Indeed, some of the most potent local effects of state and federal programs or policies had no intended programmatic content. The best case in point is underfunded mandates. Federal legislation for handicapped students placed unaccustomed procedural and substantive burdens on local education agencies, but the legislation carried less than half the estimated costs of compliance. Initially it was thought that full funding would soon follow, but it never did. Federal requirements were never relaxed, though. Local and state school agencies had to allocate their own funds to this area of program support, often with grave results for other educational activities.

Yet requirements have limits. State and federal officials rarely can effectively oversee local program implementation. No state or federal education agencies have the inspectorates found in Britain, France, and their former colonies. At best US state and federal agencies use oversight-at-a-distance, such as written program evaluations, grant recipients' reports on operations, and the like. Such things multiply work without producing fruitful contacts among public servants at different levels of government (Bardach and Kagan, 1982). And local schools retain considerable autonomy. Administrators and teachers usually can tailor higher level programs to local purposes and conditions, if they have the will and take the time (Berman and McLaughlin, 1977). Often they can cope with higher level directives simply by ignoring them. Inattention is a ubiquitous management tool (Kiesler and Sproull, 1982), and it can be especially efficient in a fragmented governance system.

These patterns contrast sharply with many foreign education systems. The Ministries of Education in France and Singapore deal with schools on a broad range of educational matters, as do the state departments of education in Australia and provincial governments in Germany. There are administrative sub-units in these agencies, but they are broadly defined by the key areas of schools' operation -- i.e., curriculum, instruction, personell, and the like. The sub-units have extensive general authority and new initiatives typically subsist within them, rather than being set aside in independent units. For the operating units make the key decisions about education and have the resources. That is what might be expected in nations that were founded on etatist traditions. New policy initiatives are not organized as

though they were at war with government, or on the assumption that they can have little to do with the core operations of education.

The collisions between rapidly expanded policymaking and fragmented governance are a hallmark of US education. Few nations have such dispersed authority and power in education, yet few nations have such intense higher level policymaking. Americans complain more than any other people about state interference with education and centralizing forces in schools, but authority and power are more dispersed here than in nearly any other nation. Perhaps that is why we complain more.

II. INSTRUCTIONAL GUIDANCE

State and federal governments have made many efforts to improve instruction. They offer financial aid to local districts, they sponsor child health and nutrition programs, and they support programs to improve education for the disadvantaged. Yet such policies rarely make broad or close contact with instruction. Teaching and learning are more directly guided by the texts that students and teachers use, the examinations that assess students' academic accomplishments, the standards teachers must satisfy in order to secure a post, and the like. These instruments comprise the means so far invented to guide classroom work. We lump them under the rubric of instructional guidance, and sort them into five categories:

Instructional frameworks;

Assessment of student performance;

Instructional materials;

Oversight of instruction;

Requirements for teacher education and licensure.

Nations use these instruments very differently. In some cases guidance is designed and deployed by governments, while in others private agencies play a large role. If all school systems adopt some stance toward guiding instruction, sometimes it includes offering little advice.

Instructional guidance also mediates the effects of other policies that seek to affect practice. For the effects of all government policies that try to influence instruction -- including those that do so by offering extra aid to the disadvantaged, or holding schools "accountable" -- are shaped by instructional materials, by teachers' professional capacities, and by methods of student assessment. Intentionally or

not, the aggregate of instructional guidance is a medium in and through which many other educational policies and programs operate.

In what follows we compare instructional guidance across national school systems, using a few key categories (see Porter et. al., 1988):

Consistency: Given different domains of guidance, one important issue concerns the extent of agreement within and among domains. In some systems instructional frameworks are consistent internally, and consistent with texts or teacher education. But in other systems they are not.

Specificity or prescriptiveness: Teaching and learning are complex enterprises, and there are many different ways to enact them. Teachers and students are offered clear and detailed guidance about content coverage or pedagogy in some systems, while in others guidance is very general or vague.

Authority and power: To offer guidance is not to decide what weight it carries. Advice for instruction is presented in ways that have great authority with students and teachers in some systems, but in others it is presented in ways that carry little weight.

INSTRUCTIONAL FRAMEWORKS

Instructional frameworks are general designs for instruction -- i.e., broad conceptions of the purposes, structure, and content of academic work. Frameworks can set the terms of reference for the entire enterprise. In some school systems they guide course structure and content, the nature of textbooks, the purposes and content of examinations, and the like. They can be quite prescriptive: In many former French and British colonies such frameworks offer extensive and focused guidance about instructional content, and in some cases approaches to teaching as well. In France many curriculum decisions are made in the national ministry of education, which often details the topics to be studied, the teaching materials and methods to be used, and even time allocations (Beauchamp and Beauchamp, 1972; Lewis, 1989). The Japanese central ministry determines the course of study for each subject, prescribing content and detailing the sequence of topics (Kida, 1986; OECD, 1971).

Such guidance seems to carry great authority and power. In France, many central curriculum decisions are taken by the National Assembly, while others are Ministry decrees. But authoritative

guidance need not be governmental. In Holland it is offered by autonomous agencies that are supported by government but are not part of it.

Frameworks have been uncommon in the US. The most common instructional designs have been bare listings of course requirements by states or localities. But apart from the New York State Regents it was long uncommon for state agencies to offer advice about the material to be covered within particular subject areas, or about the structure of courses. This passivity was not unique to state governments. Until quite recently few local systems seem to have prescribed topics within courses or curricula. And guidelines about pedagogy have been even more rare. Relatively weak state and local guidance about course content and pedagogy has meant that students and teachers had great lattitude in shaping the content and purposes of their courses (Cusick, 1984; Schwille et. al., 1983; Powell, et. al., 1985; Sedlak, et. al., 1986; Porter et. al., 1988).

Recently a few states have moved more agressively into instructional design. Florida, South Carolina, and a few other Southern states instituted statewide basic skills curricula in efforts to improve students' performance during the past decade. These included guidance for content coverage and pacing, and at least implicitly for teacher education. Several states have published evaluations that claim gains in student achievement, though no independent evaluations seem to have been done. At the same time several other states pressed guidance for a radically different sort of content. In 1985 California issued the first of a series of curriculum frameworks that were intended to make teaching and learning intellectually much more ambitious and demanding. Arizona and Michigan have taken some similar steps, as has Connecticut.

Some local school systems also began to move toward instructional frameworks the1970s and 1980s, with the news that test scores were declining and demands that schools should get "back to the basics." Local districts came under unfamiliar pressure to improve performance, and some began to devise minimum instructional programs in response -- Washington, D.C., Chicago, and Philadelphia among them. There is little systematic research on these matters, and so we cannot gauge the depth or extent of these changes. Additionally, several cities that adopted such schemes recently announced their demise. But officials in a few districts that we recently visited reported a move to greater central control.

Schools can no longer decide their own instructional programs, and central offices have written rudimentary curriculum frameworks, usually blueprints for "essential skills."

INSTRUCTIONAL MATERIALS

Texts and other materials are found in all systems, but the extent of guidance for using them varies enormously. In many systems the national ministry takes a leading role in setting the terms of reference for texts and other materials. The Japanese ministry does so, and it authorizes the textbooks to be used based on its prescribed curriculum frameworks (Kida, 1986; OECD, 1973). Consequently there is a good deal of consistency between the guidance Japanese teachers receive from textbooks and from national curriculum frameworks. Similar arrangements hold in France, Singapore, and several formerly French or British colonies. In some cases ministries actually publish texts and in others they are privately published. But in either event, materials are powerfully influenced by curriculum frameworks.

Decisions about instructional materials have been much more fragmented in the US. Since there have been few instructional frameworks until recently, the publishers of materials had little or no consistent, content-oriented guidance. Instead the publishers were guided by what had been done before, by official and unofficial expressions of state or local preferences, and by their own sense of the market. Texts have improved in many ways over those that were available in the 1920s, but most commentators regard most texts as intellectually shallow. Many states and localities officially adopt textbooks, and Americans often have thought this to be highly prescriptive for instruction. But lacking much official guidance for topic coverage within texts, save for such matters as evolution, these texts seem not to have been highly prescriptive for topic coverage. Researchers report that many texts mention many more topics than could be dealt with, which requires extensive topic choice by teachers (Tyson-Bernstein, 1990). Additionally, there seem to be appreciable inconsistencies in content coverage among the different texts for most subjects at most grade levels (Freeman et. al., 1983). Hence texts have offered many opportunities for teachers and students to vary the content they cover (Schwille et. al., 1983; Porter et. al., 1988; Freeman and Porter, 1990).

As several states recently moved toward more explicit instructional designs they tried to make them count for textbooks. California used its new curriculum frameworks in Mathematics, and in Literature and Language Arts, to press publishers to revise texts. Publishers were told that if they did not

satisfactorily revise, their texts would not be approved for adoption. But the state's guidance still was general. The mathematics framework, for instance, offered little specific guidance about topic coverage. Casual comparisons of the new and old Literature and Language Arts texts with the revised framework suggest that the state has won some significant changes, though systematic analysis remains to be done. Studies of mathematics texts and framework suggest only modest change thus far (Putnam et al, 1991).

Some local districts also have begun trying to promote greater consistency between instructional frameworks and materials. Several that devised such frameworks also specified the knowledge and skills that students and teachers should cover in texts and other materials, often doing so in compilations of "essential skills." In at least one case local officials tied their guidance to recently published texts that seemed to fit with the local instructional frameworks. The district specified the material to be covered in the common text, and when it should be covered. That is an extraordinary change for US schools, but we have found no studies that gauge its breadth or depth.

ASSESSMENT OF RESULTS

Assessment of instructional results is an essential element of instructional guidance in most school systems. Many nations tie assessment closely to curriculum. In France and many former French and British colonies examinations are referenced to national curricula, or to instructional frameworks, or both. The examinations thus provide both a visible target for instruction and a means of checking on its results (Madaus, 1991; Resnick and Resnick, 1985, 1989). The nature of assessment in these cases also differs from American approaches. The examinations probe students' performance in specific curricula, often in extended essay or problem-solving performances. By contrast, US schools employ standardized tests that are referenced to national norms and designed to be independent of curricula. Performance has been limited to answering multiple-choice questions.

In nations like France, Great Britain and Japan, examinations count in very specific ways. Students' promotion and further education depend partly or entirely on their exam performance. Indeed, many school systems that employ examinations are highly selective. In Singapore exams are used to make nearly irrevocable decisions about streaming in both the primary and secondary grades, and thus to influence decisions about students' careers and further education. This use of examinations sharply limits students' opportunities to recoup earlier poor performance. The US lacks such a selective examination

system, which is one reason why students here have more "second chances" than they do in any other nation. But the use of examinations for student selection does enhance the examinations' authority (Resnick and Resnick, 1985, 1989; Madaus, 1988). In New South Wales, Australia, for example, students' performance on the school leaving exam (the HSC) decides their opportunities for further education. Differences of a tenth of a point in exam scores can be crucial. In Japan, scores on both national secondary school leaving exams and university extrance exams decide which high school students will go on to university, as well as deciding the quality and prestige of the universities that students will attend (Ohta, 1986; OECD, 1973; White, 1987). Secondary schools' prestige also is tied to students' success in examinations for prestigious universities (OECD, 1971). In such cases the social and economic significance of exam performance offers many incentives for students and teachers to take them seriously.

Matters are very different in the US. There is a great deal of assessment but it has an uncertain bearing on instruction. One reason is that most tests were designed to minimize their sensitivity to specific curricula (Smith and O'Day, 1990; Madaus, 1989; Resnick and Resnick, 1985). What is more, many different tests are designed, published, and marketed by many different private testing agencies. And most decisions about which test to use have been made by thousands of local and state school agencies, each of which adopts tests of its own liking independent of the others' decisions. All of this made for inconsistent guidance.

Variation in content coverage was another source of inconsistency in the guidance that US tests offered for instruction. Standardized tests often have been seen as interchangable, but one of the few careful studies of topical agreement among tests raised doubts about that view. Focusing on several leading fourth grade mathematics tests, the authors observed that "...our findings challenge... th[e] assumption...that standardized achievement tests may be used interchangeably" (Freeman, et. al., 1983). The authors maintain that these tests are topically inconsistent and thus differentially sensitive to content coverage.

Inconsistency was further enhanced by the widespread local practice of using one publisher's test in one grade and others in other grades. This problem has been magnified by the increase in testing during the past several decades, as local and state-sponsored minimum competency and essential skills tests have

spread. American students are now tested much more often than they were twenty years ago, but they are tested with more different tests.

Established US approaches to assessment thus would have impeded consistency among the elements of instructional guidance, had consistency been sought. Until recently, though, it was not. The guidance for instruction that tests offered was general, and probably more a matter of the form of knowledge -- i.e., it exists in multiple choice formats and is either right or wrong -- than its content. This guidance also was vague, since the test results were rarely known. Test results could hardly be authoritative for instruction if they were kept from teachers, partly on the designers' view that they were not designed to guide instruction.

Indeed, decisions about test design, marketing and adoption typically were made apart from knowledge of schools' curricula, teacher education, and the like. Test theory and practice held that such independence was crucial to test validity, but this further weakened consistency between tests and instructional materials. Research seems to bear out the weak relations between the subject matter content of standardized tests and of texts. The investigators concluded:

> "...if a fourth-grade teacher limits instruction to one of the four books analyzed, students will have an adequate opportunity to learn or to review less than half of all topics that will be tested..." (Freeman, et. al., 1983)

To the extent that tests guided instruction, then, it was inconsistent. That weakens the instructional authority of the tests. It is thus not surprising that many teachers report they rarely take test results into account in instruction (Floden, Porter, Schmidt, and Freeman, 1978; Salmon-Cox, 1981; Sproull and Zubrow, 1981; Ruddell, 1985; MacRury, Nagy, and Traub, 1987).

There have been a few exceptions to these paterns, notably the New York State Regents exams and the Advanced Placement Program (AP). The AP Program is a special sub-system within public education, in which high-achieving students take advanced courses. The AP exams seem to strongly influence instruction, in part because the exams are tied to a suggested curriculum and readings. The exams also seem to be taken seriously by most students and teachers, partly because the scores count for college entrance as well as college course taking. But these have been anomalies in American education (Powell, 1991).

But we have written in the past tense, for these patterns began to change in the past two decades. Rising public interest in testing and other political pressures led many states and localities to begin publishing scores in the early 1970s, after decades of secrecy. By now many do so as a matter of course and often conviction. State and local school agencies also increasingly turned to tests in efforts to improve instruction. The favored method was to institute "accountability" schemes, often based on minimum competency tests. Many were only a high school graduation requirement, but some also included tests for promotion. Some were hastily contrived under political pressure. The tests often were adapted from standardized norm-referenced tests designed for other purposes.

State and local use of tests to guide instruction marked a dramatic turn in assessment practices. But the fragmentation characteristic of US education was evident here as well. Many minimum competency tests were unrelated to other elements of instructional guidance, such as curriculum. The tests effectively became the curriculum in some cases (Darling-Hammond and Wise, 198?). But recently that has begun to change as well, as some publishers have brought out text series that are accompanied by criterion-referenced test systems. These effectively link curriculum and instruction to testing. In several cities that we have studied these test and text series are the heart of the instructional program. Students' performance is monitored by regular testing that is keyed to text pages, and sometimes they are re-tested until they achieve "mastery." We have found no studies that probe the frequency of such practices, though they seem to be found chiefly in cities with many disadvantaged students. In such cases tests offer much more specific and prescriptive guidance than ordinarily has been the case in the US.

How does such testing affect instruction? There has been surprisingly little research on the issue. Several researchers assert that the tests have had a powerful effect on teaching (Darling-Hammond and Wise, 1985; Romberg, Zarinnia, and Williams, 1989; Resnick and Resnick, 1989). Competency tests are said to drive instruction in a mechanical and simplistic direction. Teachers orient instruction to the test items, and if students do poorly on the test, remediation consists of drill on the items they don't know (Madaus, 1988; Kreitzer, Madaus, and Haney, 1989). A recent US Department of Education report claims that "..accountability systems...are very powerful policy tools that have changed school-level planning and teaching activities." (OERI, 1988, p. 31).

But it also is often said that these claims only hold for situations in which the tests carry "high stakes" -- i.e., that they count for students' academic progress, or for schools or teachers. This condition does not hold for many minimum competency testing programs, and for many students in high stakes testing programs. It also seems to be accepted that such tests are much more likely to affect poor and minority group children, since more advantaged students pass the tests with little effort. These considerations suggest that the effects of minimum competency testing have been quite uneven, and are salient for a particular segment of the school population. Additionally, we do not know how salient the tests have been, because there have been no observational studies of teachers' responses to tests. The little research on competency testing thus far is based on interviews with teachers who describe the effects of testing in rather global terms, and the evidence they present is very mixed (OERI, 1988; Romberg et. al, 1990).

The effects of testing are complicated by recent reforms. Minimum competency testing has come under sharp attack, and standardized testing itself is the object of unprecedented criticism. Several states recently have begun to use novel testing programs in efforts to strengthen and radically change guidance for instruction. The California state education department has begun revising its statewide testing program in an effort to "align" the state's tests with its ambitious new curriculum frameworks. State officials hope that if the tests are changed to assess thinking and understanding rather than facts and memorization, they will "drive" instruction in the new directions. Connecticut has been making similar changes, though it seems to rely on tests much more than on instructional designs. Florida has dropped its minimum competency testing program in favor of a radically different approach to reform. Proposals for authentic assessments and performance assessments have become common, and many educational agencies claim to be implementing them. This ferment is quite unprecedented, but the developments are so recent that little is known about the operation of innovative assessements, let alone their effects.

MONITORING INSTRUCTION

The inspection of students' work, observation of teaching, and other sorts of monitoring constitute a fourth type of instructional guidance. Monitoring also varies dramatically among nations. French and British central school agencies include an inspectorate, whose duties included checking on the topics that teachers covered, their pedagogy, and the materials they used. British inspectors visited schools to

maintain standards of work and offer advice on content and pedagogy (Lawton and Gordon, 1987). They also published reports and conducted continuing professional education for teachers (Lawton and Gordon, 1987). Such arrangements were adopted in one form or another in many former French and British colonies.

Monitoring has been extremely modest and inconsistent in the US. Few states and localities systematically monitored either teachers' coverage of curriculum or the quality of classroom work. There were no education inspectorates, nor was it common for principals to keep tabs on students' and teachers' academic work (Schwille et. al., 1983). Indeed, it was uncommon for students to keep the detailed records that would permit such monitoring. Even if such records were kept, few principals involved themselves in instruction. Hence there have been few checks on what materials are used, or how they are used, or what instruction is provided. In this respect US teachers have had quite extraordinary autonomy.

Many observers believe that US teachers nonetheless teach more or less the same thing anyway. They often point to the use of textbooks, believing that the text determines instruction in most classrooms. If teachers use the same text it is expected that they will teach the same thing. Though there has been little research on this matter, the assumed homogeniety of content coverage is unsupported by the available evidence. Even when teachers use the same texts, their content coverage seems to vary greatly (Schwille, et. al. 1985; Putnam, et. al., 1989). The authors of one study concluded that "[T]his investigation challenge[s] the popular notion that the content of math instruction in a given elementary school is essentially equal to the textbook being used" (Freeman and Porter, 1990, p. 418).

There are some recent signs of change. One local school system that adopted more centralized instructional guidance also devised a way to monitor teachers' coverage of it. Teachers fill out forms that report chapter and page coverage in required texts, and the forms are read by principals and central office officials. Some states also have begun monitoring of a sort. South Carolina has used test scores to identify low performing schools and districts that need special attention, and high performing schools and districts that can be released from various state requirements (CPRE, 1990). But there are few studies of these schemes, and we could find no investigations of their effects on instruction.

TEACHER EDUCATION

AND LICENSING

Guidance for instruction in this realm also varies greatly among nations. In many nations the guidance offered by teacher education is quite consistent with other sorts of guidance. One key connection is with the schools' curriculum: In Singapore, teachers' professional education is closely tied to the curriculum of the schools. Additionally, in many nations the requirements for licensure are national rather than local, and teacher education is quite consistent across institutions. That seems to be true at the national level in France, partly because the Ministry's inspectors play a central role in the preparation of elementary school teachers in the Ecole Normale (Lewis, 1985). This creates consistency in the professional education of teachers and in the messages they receive from different elements of the system.

Such guidance is more of a hodge-podge in the US. States are the agency for licensure of virtually all occupations, but unlike medicine, teacher certification requirements are inconsistent across states and often within them. Chicago and New York City, for instance, have different certification requirements than the states in which they are located. The interstate differences are so considerable that one recent study concluded "...a teacher certified in one state is unlikely to meet the certification requirements in another" (Haggstrom, Darling-Hammond, and Grissmer, 1988, p. 12).

Most requirements for certification focus on teachers' education, and virtually all of those concern higher education. But the state agencies that set certification standards are remote from the colleges and universities that conduct most teacher education. Moreover, certification agencies usually have little connection with the state agencies that govern college and universities. Certification agencies have additionally tended to act purely in terms of course requirements rather than course content or students' performance. Hence there is room for considerable variation in how colleges and universities interpret the same requirements.

Another source of inconsistency is the loose relation between college and university requirements for teacher education, and the schools' curriculum. Schools' curricula vary within states, since some districts operate academically high-powered programs while others do much less. The variety of local instructional programs cannot be accounted for by teacher education departments. And in many cases members of those departments regard the schools' curriculum as collection of errors that intending teachers must learn to avoid.

Against this background the mere idea of consistent guidance for teacher education and licensing seems revolutionary. Yet recently there have been moves in that direction. Most notable is The National Board for Professional Teaching Standards (NBPTS), which has begun efforts to develop a national examination system for teachers. If successful this could lead to a partial national system for teacher certification, which could profoundly affect teacher education.

INSTRUCTIONAL GUIDANCE: AN OVERVIEW

Instructional guidance in the US has been inconsistent and diffuse. Many private and public agencies issue advice for instruction, but few take account of each others' advice. Hence much guidance for instruction has been unrelated, divergent, or contradictory. It also has been largely decoupled from government. Public agencies have extensive authority to guide instruction, but they delegated most of it to private firms or local schools. The influence of US school governments pales when compared to central or provincial agencies elsewhere.

Instructional guidance also filters the effects of other policies that aim to influence classrooms. Prolific and inconsistent guidance in the US has muffled and diffused such initiatives. Since government officials could not turn to an established system of guidance in efforts to shape instruction, individual programs or policies could not exert a powerful and consistent influence on instruction. Each program or policy was on its own, each competing with a buzz of other advice. Federal and state policymakers dealt with this problem by trying to mobilize special arrangements -- i.e., program guidelines, evaluation, and technical assistance. But these are ancillary to the core instruments of guidance, and have been no more than modestly influential.

The result is paradoxical. Public and private agencies prolifically produce guidance, more than in societies with much more potent advice for instruction. But it does not press instruction in any consistent direction. For when guidance is inconsistent and diffuse, no single test, curriculum, or policy or program is likely to have a broad or marked effect. Many teachers and students are aware of different sorts of advice, but few are keenly aware of most of it. Many know that most guidance is either weakly supported or contradicted by other advice, and that much can safely be ignored. The din of diverse, often inconsistent, and generally weak guidance opens considerable lattitude to those who work within it.

Teachers' habits and decisions are important in any system of instruction. But absent plain and strong guidance they become unsually important. The result in US classrooms is curiously mixed. The forms of instruction are generally traditional, and the intellectual level usually is low, but the specific content is remarkably variable. There are many reasons for the variation, including differences in students' inclinations and teachers' judgment. But one additional reason is that students' and teachers' preferences are unconstrained by a plain system of common purposes and content.

Classrooms around the world are traditional in form, often much more so than in the US. But classrooms here exibit a distinctive sort of diffuse, academically relaxed traditionalism. The forms of instruction are conventional and often dull, and the work is not intellectually demanding. Yet the content is highly variable. Teachers' work is guided more by inherited practices and individual decisions than by any clear and common view of what is to be covered, how it is to be covered, and why. In this sense, American schools have the worst of both worlds.

Our point is not that instructional guidance has been irrelevant in US schools. Rather it has been relevant only when someone chose to notice it, and to do something about it. In a sense this is true anywhere: Even teachers in Singaporean or French schools must notice guidance and choose to do something about it before it can shape instruction. But the consistency, prescriptiveness, and authority of instructional guidance in such places increases the chances that teachers will notice the same advice, and that they will pursue broadly similar courses of action in light of it. In contrast, teachers' and students' autonomy have been enhanced in the US because they work in such a diffuse system of instructional guidance. The classroom doors behind which teachers labor are no thicker here than elsewhere, but they receive fewer strong and consistent messages about content and pedagogy. Hence they and their students have found it relatively easy to pursue their own preferences once the doors closed behind them.

The situation has begun to change as recent school reformers seek to cure the ills of US education. We know little about the effects of these efforts, but the cures bear an uncanny resemblance to the disease. Several states are trying to promote some form of consistent guidance, but quite naturally do so independently of each other. Many localities are trying to promote some version of consistent guidance, but do so with no reference to each other, or to state policy. Federal education officials recently have begun trying to create more consistent guidance for instruction, but their efforts so far are independent of

many state and local endeavors. Several national groups -- The National Governors Association, The National Board on Professional Teaching Standards, the National Council of Teachers of Mathematics and others -- also are trying to promote more consistent guidance. Each of course is carrying on independently of the rest, and none are much related to state and local efforts. Some professional associations also have taken up the idea, as have several academic disciplines, but there also is modest contact among these endeavors, and little relation to state and local initiatives. We live in a blizzard of different, divergent, and often inconsistent efforts to create more consistent guidance.

There also are deep divisions over the content of the recent reforms. Proposals for more lively and demanding instruction are circulating in various political, disciplinary and educational circles, but there are many versions of the new ideas. These novel schemes also compete with established ideas and practices, for "back to basics," "effective schools," and "direct instruction" all are alive, well, and firmly rooted in school and classroom practice.

All of this is par for the American course. Government structure has not been changed by recent reforms, nor has political practice. The power of our ingeniously fragmented political system is evident even in efforts to cure fragmentation. Some attack fragmentation as a barrier to more effective instruction, but others celebrate it as a source of vitality in American institutions. Similarly, today's disagreements about the aims and methods of education are only the most recent expression of old tensions between our practical and anti-intellectual bent, and our occasionally more elevated aspirations. The dispute has deep roots in both popular culture and the institutions of education, and it would be astonishing if it were settled easily or soon.

EFFECTS OF INSTRUCTIONAL GUIDANCE

If instructional guidance is worth noticing, it is because it makes a difference to teaching and learning. Does it?

Many educators around the world would think the answer obvious and affirmative. That guidance affects instruction is the working assumption of many European and Asian school systems. But many US social scientists argue that it is difficult or impossible to steer education toward consistent practices or results, owing to weak knowledge of educational processes and other uncertainties (Lortie, 1974;

Jackson, 1968; Berlak and Berlak, 197?; Lampert, 197?; Floden and Clark, 198?). John Meyer and his associates contend that schools systems therefore create elaborate rituals, building a "logic of confidence" to replace evidence of rational relations between educational resources and processes on the one hand, and results on the other (Scott and Meyer, 198?). School systems "buffer" themselves by offering evidence on attendance and degrees instead of evidence on performance. Oddly, there is little evidence on these contending assumptions. For all the variation in instructional guidance, there is little research on its effects.

TEACHING

Is teaching more consistent in school systems with more consistent instructional guidance? The only direct way to answer the question would be to connect evidence on the structure of education systems to evidence on instruction within them. The only study that permits such comparisons is the IEA's Second International Mathematics Study (SIMS). And while SIMS contained evidence on math teaching and curriculum for fifteen nations, it offered little data on system structure. David Stevenson and David Baker compiled such data, focusing on the degree of central curriculum control. They tied this to SIMS data on the consistency of topic coverage among teachers within nations. They found that cross-national differences in the degree of central curriculum control were positively related to consistency in the topics that teachers reported that they taught. Teachers in nations with more centralized curriculum control reported greater agreement on topics taught than did teachers in systems with less central control. More centrally controlled systems also had fewer teachers who reported teaching little of the prescribed curriculum. There was less within-system variation in the amount of mathematics instruction in systems with more national curriculum control than in those with local or provincial control. Finally, teachers in more locally controlled systems were more likely to report that they adjusted instruction to local conditions, including their perceptions of students' ability and mastery of mathematics (Stevenson and Baker, 1991). While modest, these differences all suggest an effect of consistent guidance. But Stevenson and Baker point out that they had no direct measures of consistency in guidance.

SIMS seems to be the only data set in which system-level effects can be explored, but instructional guidance operates at many levels of education. Many recent studies of school effectiveness have focused attention on school-level consistency in guidance. While the studies are of varying quality, they show that

schools vary widely with respect to consistency in instruction. Some adopt a laizzer-faire style, permit diverse offerings and approaches, and thus create many choices for teachers about what to teach, and how, and for students about what to study, and how much. Others offer more consistent instructional guidance, thus limiting both instructional offerings and faculty and student choices (Cusick, 1983; Powell, Farrar, and Cohen, 1985; Bryk, Lee, and Smith, 1991).

What are the agencies of school-level guidance? Some researchers point to school heads' leadership in forging consensus about goals and methods (Edmonds, 197?). Others focus on school "climate," or shared norms for instruction among faculty and students (Bryk, Lee, and Smith, 1990). Levels of faculty collegiality and cooperation sometimes are offered as another sort of guidance for teaching (Purkey and Smith, 1983). But other analysts point as much to to structural as cultural factors -- i.e., some schools are committed to less differentiation in the curriculum and thus to fewer choices for students and teachers, creating more consistency by organizing curriculum around a common core of courses (Powell, Farrar, and Cohen, 1985). Not surprisingly, such schools tend to be smaller (Bryk, Lee, and Smith, 1991). But these studies all accept that instructional guidance somehow affects teachers' and students' work in school.

LEARNING

Our interest in the effect of instructional guidance on teaching is partly instrumental: We want to know if it affects learning. There is unfortunately no cross-national evidence on this issue, nor do we expect anything very persuasive very soon. For researchers would have to connect evidence on the large structure of educational systems with evidence on the fine structure of teaching, and connect both of those to learning. Further, they would have to do so across many different nations with different school systems. It would be immensely complex to make those connections while also taking other salient influences into account. If the prior history of research on school effects is any precedent, knowledge will grow slowly.

But many US schools have tried to improve learning by increasing guidance for instruction, and many researchers have investigated the effects. One body of evidence arises from studies associated with the movement for "effective schools." Researchers reported that students' achievement improved, or was higher than expected in schools in which leaders focused on common goals and faculty had high expectations for students (Edmonds, 197?; Rowan, 198?; Purkey and Smith, 1983). But these studies usually

involved only a few schools, and most offered very limited data on school organization and culture (Purkey and Smith, 1983).

More systematic evidence on the effects of school-level guidance arises from re-analyses of the High School and Beyond (HS&B) data set. Bryk and Driscoll (1988) probed the relations between various measures of schools as "communities" and students' performance. Community included shared values, common curriculum and other activities, and an ethos of "caring" for students. Schools that were high on these dimensions had significantly lower drop-out rates and absenteeism, and slightly higher gains in mathematics achievement. Lee and Bryk (1989) used the same data set to probe differences in schools constraint of curricular choices. Schools that channelled most work into a common curriculum created consistency by increasing the amount of work that students did in common. Lee and Bryk argued that such schools tended to reduce performance differences among students over time, particularly for minority-group students. In a later article they wrote that schools can "...mimimize the normal differentiation effects that accompany wide lattitude in course choices...[I]nitial differences among students' [performance] can be either amplified or constrained ..." (Bryk, Lee and Smith, 1991, p. 178).

John Chubb and Terry Moe also re-analyzed HS&B, and stressed consistent instructional guidance even more. They argued that high performing high schools are marked by "coherence," in which principals "...provide a clear vision of where the schools are going...[and] encourage ...cooperation and collegiality..." They opine that these attributes add up to "organizational coherence" (Chubb and Moe, 1990, p. 91). They also found that students performed better when school staffs had a coherent vision of academic goals, and were collegial and cooperative, though the magnitude of the effect was quite modest.

What can we conclude about the effects of instructional guidance? For one thing, consistency means somewhat different things, or is a construct with quite different dimensions. One line of thought focuses on culture and values, another on the organization of curriculum choice, and a third on leadership. For another, most research on the effects of instructional guidance is recent, and the evidence is modest. One cross-national study seems to show that more central curriculum control is modestly associated with greater topical consistency in teaching. And various US school studies claim that more consistent instructional guidance is associated with more consistent instruction. But there are no field studies that make a convincing case for the causal power of guidance. And no cross-system studies connect consistency

at the system level with student performance. Both are crucial gaps. A diverse body of research seems to show that more consistent instruction and instructional guidance in schools are associated with higher student achievement. But the causal ambiguities remain, and there are significant problems in inferences from schools to systems. Additionally, most studies reveal only modest effects, yet scholars argue fiercely about them (Witte, 1991).

Even if the studies were more extensive and convincing, there is another problem. For the measure of student achievement in all this research has been traditional standardized tests. Those tests entail a version of academic accomplishment that is said to depend heavily on recall of isolated facts and mastery of routine mental operations. That is just the sort of work that recent reformers wish schools to put aside in favor of more sophisticated endeavors. Can we assume that a positive effect of consistent guidance on such tests would hold for more challenging versions of achievement? It seems doubtful. Some would argue that the ambitious academic work recent reformers seek would be inimical to consistent guidance. With Theodore Sizer they would say that if schools are to cultivate sophisticated and independent instruction they must be sophisticated and independent.

III. CHANGE IN TEACHING

Reformers propose to transform teaching from a relatively dull and routine practice into an exciting and intellectually demanding one. To this end many argue for novel assessments that are tied both to new curriculum frameworks and to radically revised instructional materials. The combination is seen as a way to dramatically change learning and teaching. Would that happen? The studies discussed thus far have little to say, for they all concern the present and past operations of schools and school systems. What do we know about how teachers might respond to more consistent and ambitious guidance for their work?

Precious little, if we want a direct response. We have found no studies of school systems that attempted to shift from local autonomy and traditional teaching to more centrally controlled and intellectually ambitious instruction. None of the national school systems that curently exhibit great consistency suddenly changed from fragmented to consistent operations. Some evolved over the course of several centuries while others were hastily created in the wake of decolonization. But in neither case were teachers required to change from well-established traditional practice to novel and much more adventurous practice.

There have been some studies of efforts to turn teaching in a much more adventurous direction. Larry Cuban found that American classrooms remained traditional despite Progressive reforms (Cuban, 1984). He argued that teaching changes at a glacial pace and in fragmentary fashion. In most cases teachers borrowed bits and pieces of Progressive ideas and practices and integrated them into standard classroom formats. That conclusion fits with the work of other investigators in the US and the UK, who studied various efforts to push teaching in more ambitious and adventurous directions. All concluded that efforts to make teaching more ambitious produced change at the margins, but little else (Stevens, 190?; Goodlad and Klein, 196?; Popkewitz, 197?).

It might be objected that Progressivism was only a program. There were many ideas, books, articles and pamphlets, some professors teaching courses, and even a few teacher education agencies devoted to the "new education." But there were no curricula, no assessments, nor any instructional frameworks that might have helped teachers to learn a different pedagogy. From this perspective the 1950s curriculum reforms were an improvement, for teachers had new texts as well as opportunities to learn about the new curricula. Some of the new texts were widely adopted, and many teachers took advantage of opportunities to learn. But reports of great change in teaching were few and far between. Some teachers seem to have dramatically changed their approach to instruction in the early years of reform, but many more struggled to understand and change (Sarason, 1981; NSF synthesis studies). Most teachers seemed to make only marginal changes, grafting bits of reform ideas and practices onto established, traditional teaching. There is indirect evidence that these were major changes for the teachers involved (Cohen and Ball, 1991; Cohen, 1991). But the difficulty of such change was not appreciated by most of those involved (Sarason, 1981). Measures that might have supported more change thus were not contemplated, much less taken. And changed educational priorities soon swept away opportunities for teachers to learn more. A subsequent NSF-sponsored study found few classroom traces of the curriculum reforms (Stake and Easley, 1978).

Would not the recent reforms be much more potent? Instead of new texts and opportunities for further education there would be an entire guidance system -- new instructional frameworks that were reflected in novel sorts of assessment, in new curriculum materials, and in new approaches to teacher licensing and education. Would not "systemic reform" (Smith and O'Day, 1991) offer much more

structure for teaching, much richer opportunities for teacher learning, and a chance for professional community in teaching? Would not more direction offer more support and pressure for change?

The idea has some appeal. But if greater structure and consistency would offer a more substantial basis for change in teaching, it does not follow that change would be easy or swift. For the greater structure would frame new and ambitious purposes, content, and methods. The agenda for teacher change would be vast, even with greater guidance. Consider, for example, studies of the "new math" in Europe. Some European school systems that adopted the new math had more consistent guidance for instruction than others, or the US. But those differences did not seem to affect change in teaching. The research is spotty, but the most detailed study argued that the processes of reform were strikingly similar across systems with very different structures (Moon, 198?). Reports about change in teaching also were quite homogeneous across systems. Participants and researchers reported that classroom practice changed only a little, and for the most part in fragmentary ways (Moon, 198?; Westbury, 1980; Van der Blij, Hilding, and Weinzweig, 1980; Damerow, 1980; Oldham, 1980; Howson, 1980). The new math seemed to fare little differently in the French system of consistent guidance structures than in the less consistent UK or US systems.

We are inclined to think that some versions of systemic reform could offer more support for radical change in teaching than purely decentralized arrangements. But there is no evidence on the relative rates or depth of change under various organizational conditions. More important, there is growing evidence of several fundamental obstacles to the changes that reformers currently urge, none of which are structural in nature. One concerns teachers' knowledge. The recent reforms demand a depth and sophistication in teachers' grasp of academic subjects that is far beyond most public school teachers. For instance, while math is a leading area in the current reforms, most elementary school teachers have a very modest understanding of the mathematics they teach (Post, Taylor, Haerel, Behr and Lesh, 1988; Thompson, 1984). They would need to learn a great deal more if the reforms were to have any chance of success. More important, teachers would have to shed established modes of understanding and adopt more modern, constructivist versions of knowledge. Such change is not just a matter of learning more -- it could fairly be termed a revolution. Scholarship in several fields has shown that intellectual revolutions are very

difficult to foment (EEPA, Fall, 1991; Markus and Zajonc, 1985; Nisbett and Ross, 1980; Fiske and Taylor, 1984; Kuhn, 196?; Lakatos, 196?).

Another obstacle lies in teaching. Even if teachers knew all that they needed, the reforms propose that students become active, engaged, and collaborative. If so, classroom roles would have to change radically. Teachers would have to rely on students to produce much more instruction, and students would have to think and act in ways they rarely do. Teachers would have to become coaches or conductors, and abandon more familiar and didactic roles in which they "tell knowledge" to students (Lampert, 1988; Sizer, 1984; Duffy and Roehler, 1988; Scardamalia, Bereiter, and Steinbach, 1984; Newmann, 1988). Researchers have studied only a few efforts at such change, but they report unusual difficulty. For teachers must manage very complex interactions about very complex ideas, in rapid-fire fashion. The uncertainties of teaching multiply phenomenally, as does teachers' vulnerability (Lampert, 1988; Duffy and Roehler, 1988; Newmann, 1988; Cuban, 1984; Cohen, 1988; Cohen, unpublished mss).

Since the recent reforms would require much teacher learning, they would require many changes in teachers' opportunities to learn. That is a third obstacle to change. Those who presently teach would need many educational opportunities on the job, as well as off it in colleges, universities, and other agencies. Yet few schools now offer teachers many chances to learn on the job, and what they do offer is generally deemed weak at best. Most continuing education in universities has a dismal reputation among teachers and researchers. In addition, intending teachers would require fundamentally re-vamped undergraduate disciplinary and professional education. Few intending elementary teachers can major in an academic subject, and few intending teachers of any sort can learn new approaches to subject matter or pedagogy, since college and university educators rarely teach as reformers now intend (Boyer, 198?; McKeatchie, et. al., 1990; Cuban, 1984; Cohen, 1988).

More consistent guidance for instruction could not solve these problems. Under some conditions, too complex to spell out here, such guidance probably could help to solve them. But fundamental change in teaching also would require fundamental reform of the education of intending and practicing teachers, and equally fundamental changes in schools and universities to support such learning. Even with those reforms, deep change in teaching probably would be slow and difficult.

IV. BEYOND FORMAL STRUCTURE

Students in Japan or France are free, just as in the United States. Why do students and teachers attend more closely to guidance for instruction in Japanese and French schools? Does the guidance itself compel closer attention?

It seems unlikely. Guidance for instruction never stands alone. School systems consist not only in rules and formal structures, but also in beliefs about authority, habits of deference and resistance, and knowledge about how things work. Culture and social organization intertwine with formal structure in these systems. We mention this because many school systems that offer consistent guidance for instruction are situated in societies in which culture and other social circumstances seem to support academic effort. In contrast, US society and culture seem to undermine academic effort. The success of school systems in Europe and Asia thus may owe more to the influences of culture and society than government or system structure. If so, the nearly exclusive attention to system structure in the current US reform movement may be misplaced.

SOCIAL CIRCUMSTANCES OF SCHOOLING

Higher education and business firms are the two largest consumers of schooling in most societies. Hence their consumption patterns send signals concerning the qualities and accomplishments that they find desirable in students. The consumption patterns of American colleges and universities send mixed but generally weak signals about the importance of strong academic performance. Only a small group of highly selective colleges and universities has demanding admissions standards. A much larger fraction has very modest requirements: Students need only a thin record of academic accomplishment in high school, often only a "C" or low "B" average, to be acceptable for admission. Only high school graduation is required for admission in still another large group of institutions. And not even high school graduation is required in another large group. There is something to celebrate in this, for many students can have a second or third chance to make good despite previous failures. But these arrangements also signal that high school students need not work hard in order to get into college or university (Powell, Farrar, and Cohen, 1985; Bishop, 1989). It is thus irrational for most students who aspire to higher education to work very hard in high school, for only a few have a chance at entering a highly selective college or university. Their opportunities lie instead at less selective institutions, where much less high school work is required for

admission (Trow, 1989; Powell, Farrar, and Cohen, 1985). It therefore is irrational for high school teachers to press those students to try hard and do their best work, for the students need not push themselves in order to push ahead.

A similar situation holds for the employment practices of most US businesses. Few firms seem to ask for students' transcripts or references from teachers when considering them for employment. And even when firms do request transcripts, only a tiny fraction of schools supply them (Bishop, 1989). The lack of employer interest deters students from thinking that grades, effort, or behavior count for jobs, and it deters teachers from thinking that their judgments about students could make a difference (Rosenbaum and Kariya, 1989). Hence it would be irrational for students who intend leaving high school for work to do their best in school. Thinking deeply is difficult, and only a small fraction of students seem intrinsically motivated to do it. If students can get jobs without even presenting evidence about their grades, school behavior, and teachers' evaluation of their work, why should they work hard? Under these circumstances it would be irrational for high school teachers to press those students to do their best work.

These patterns are unusual. Colleges and universities in Japan, France, and many other nations lay great weight on students' performance in high school, or on high school leaving and university entrance exams. If students wish to enter university it is essential to work hard in school and get good grades, or prepare for the exams, or both. There are many troublesome features of such systems, including the exclusion of able students who do not do well on exams. But these systems leave no doubt about the importance of hard work and good school performance.

Employers in many nations also pay close attention to students' secondary school records in hiring decisions. This is true in Japan, in New South Wales, Australia, Singapore, and West Germany (Bishop, 1987; 1989; Kariya and Rosenbaum, 1987; Rosenbaum and Kariya, 1989). Employers routinely review transcripts and teacher references when high school graduates or early school leavers apply for jobs. In some cases schools and employers work closely in placing students in apprenticeship or regular work situations. Teachers know these things, as do students. It is understood that students who do not apply themselves and behave decently in school will have difficulty finding good jobs. Hence there are important rewards for academic effort and good behavior, even for students who have no ambitions for further education.

CULTURE

Incentives are not the whole story. The values attached to learning and teaching differ among societies, as do attitudes toward authority and habits of child rearing. Such beliefs, values and habits may support the guidance that issues from formal agencies in some cases and subvert it in others.

Americans have long been ambivalent about academic work. Anti-intellectualism is a prominent feature in American culture (Hofstadter, 1962), and we are inclined to value experience over formal education. Americans also value practical rather than intellectual content within formal education, such as learning to "get along," and job-related knowledge and skills (Lynd and Lynd, 1928; Cusick, 1983; Powell, Fararr, and Cohen, 1985). Eighty-one percent of the respondents in a recent Gallup poll said that the "chief reason" people want their children to get a formal education were job opportunities, preparation for a better life, better-paying jobs, and financial security. Only fifteen percent said that the chief reason was to become more knowledgeable, or to learn to think and understand (Elam and Gallup, 1989). Relatively few American mothers report working closely with their children on academic tasks, or offering support for hard work and success in school (Stevenson et. al., 1985).

Intellectual work and academic accomplishment appear to be more highly regarded in many other societies. In Japan and China, for instance, parents take education very seriously, and hold teachers in high esteem. Investigators report that Japanese mothers play a central role in their childrens' academic success (White, 198?; Kiefer, 1974; Shimahara, 1986). They encourage children and work closely with them on assignments, creating an environment conducive to learning (White, 198?; Stevenson et. al., 1985; Stevenson and Lee, 1990). Similar practices are found among Chinese parents (Stevenson and Lee, 1990). Japanese and Chinese mothers also seem to hold higher standards for their children, and to have more realistic evaluations of their achievement than American mothers (Stevenson and Lee, 1990).

Hence family life and values may support successful schooling in Japan while impeding it in the US. One researcher noted that "...it would be quite impossible to take account of Japanese formal education without recognising that - in many ways - it lives in close symbiosis with that culture" (King, 1986, p. 75; See also, White, 198?). American commentators often have offered complementary explanations of weak work in school here (Lynd and Lynd, 1928; Coleman, 1958; Cusick, 1983; Powell, Farrar, and Cohen, 1985).

Habits of association and attitudes toward authority also may help to explain why formal guidance for instruction seems to be treated more seriously in some societies than in others. Since Alexis de Toqueville, observers have noted Americans' distinctive individualism, their preoccupation with personal autonomy, and their focus on individual expression and development. These qualities often have been contrasted with more cooperative and deferential behavior in other societies, in which which people seem more preoccupied with how they can fit in, work with others, and advance collective values.

For instance, Japanese teachers carefully foster cooperative work on common tasks, building habits of collaboration and conflict resolution, and teaching accomodation to group preferences. They exercise great patience in encouraging students to work with groups and in using groups to regulate behavior, manage conflict, and support desired attitudes. In the process Japanese teachers accomodate "discipline" problems that would be intolerable to most Americans. But they build many centers of support for the values and behavior that they wish to inculcate, rather than assuming the entire burden themselves. Many "discipline" problems are managed by other students rather than the teacher alone (Boocock, 1989; Peak, 1989).

American teachers instead foster individual work on individual tasks. They cultivate little or no group activity, and rarely build group strength. They do not support accomodation to group preferences, but tend to impose their own preferences. They manage all discipline problems themselves, and have little patience with misbehavior. American students learn little about alternative ways to manage conflict or about collaborative work.

Thomas Roehlen framed these comparisons in a broad analysis of differences in organizational life (Roehlen, 1989). He viewed Japanese classrooms as marked by more respect and deference than those in the US, but less hierarchical and teacher-centered. The Japanese emphasis on accomodation to group values and cooperative work helps to explain the coexistence of two things that strike Americans as inconsistent: deference to authority and enormous capacity for productive work in decentralized organizations. Rohlen notes that these qualities are found in all sorts of organizations, from primary classrooms to business and government.

The result is an overall social structure that is in many respects centrifugal in terms of affiliation and the capacity to order events. Social contexts and organizations are built up from the bottom (or

> the outside), so to speak, in a way that invests the peripheral entities with great stability. The locus of social order is in the lower-level, subordinate groupings....These entities gain a degree of autonomy from the fact that internally they are strengthened by the pattern of attachment we are considering (Roehlen, 1989, pp. 31-2).

Americans have few alternatives between *laisser-faire* and imposed authority. We often fluctuate between centralized hierarchicies and decentralization. The result makes it difficult for central authority to succeed, while also precluding the development of alternatives.

How does this bear on our analysis? The remarkable consistency in Japanese education may owe as much to deference to authority, habits of accomodation, and extraordinary pressures for cooperation at all levels as to formal guidance. It also suggests caution about the prospects for much more potent guidance for instruction in the US. For it might be crippled by our habit of alternatively embracing central authority and fiercely resisting it.

V. CONCLUSION

Most schemes for fundamental change present a paradox. They offer appealing visions of a new order, but also contain a devastating critique of existing realities. If pursued, those critiques reveal the lack of many capacities that would be required to realize and sustain the new vision. Reformers easily can envision a better world in which those capacities would be created, but their problem is more practical: How to create the new world when those capacities are lacking?

Recent reform proposals offer a version of this puzzle, for they entail two dramatic departures from American political and instructional practice. One is that schools should promote a new instructional order marked by deep comprehension of academic subjects, in which students are active learners rather than passive recipients and in which teachers practice a much more thoughtful and demanding pedagogy. The other departure is radical reform in school governance and instructional guidance to support the desired changes in classrooms. These reforms include a national examination or testing system, national curricula, a national system of teacher licensing, and many equally dramatic reforms at the state level. Though different in important ways, all of these plans and proposals move sharply toward greater state or national control of education. All seek to realize new and ambitious sorts of teaching and learning in

ordinary classrooms. Hence all represent an effort to much more powerfully guide instructional practice with policy.

These are astonishing, even revolutionary proposals, and appealing in many respects. But we have pointed to weak capacities for change in several crucial departments.

One is politics. Reformers seek much greater state, national, or federal control of education, and a consequent tightening of the links between central policy and local practice. But the entire fragmented apparatus of American government weighs against the success of such ventures. Past efforts at tightening the links between policy and instruction by increasing central control have met with extremely limited success, and they produced organizational side-effects that have greatly complicated governance and administration.

We therefore suspect that the reforms sketched above are unlikely to succeed unless the governance and organization of US education is either greatly streamlined or simply bypassed. Streamlining has much appeal, including relief from the burdens consequent upon past efforts to reform local practice with state or federal policy. But streamlining would entail an unprecedented reduction of existing policies and programs, and thus a reduction in existing governmental authorities at all levels. It would spell the end of many state and local government functions in education, even though it could ease many administrative and organizational problems. What would induce local and state officials to accept the diminishment or demise of their domains? Visions of a better school system? Barring massive fiscal catastrophe or a sustained mass movement for fundamental change in education, we see no sign of the requisite inducements.

Bypassing government appeals to many partly because the prospects for streamlining seem so bleak. The creation of nongovernmental or quasi-nongovernmental authorities that may design a national examination system already is underway. A similar course of action has been taken by the National Board on Professional Teaching Standards in its efforts to create a national system of teacher examination and certification. Such bypass operations have great short-run appeal, for avoiding government could greatly ease the work of designing and developing national education systems of one sort or another. But the systems thus created would only work in the medium and long run if government were streamlined. For national curricula, examinations, or teacher licensing systems could only operate efficiently if many extant policies and programs regarding testing, curriculum, instruction and teacher licensing fell into

disuse. Of course that would require many existing state and local government authorities to fade away -- i.e., streamlining, the difficulties of which we just touched upon.

Instructional practice is a second realm in which capacity is lacking. Reformers seek much more thoughtful, adventurous, and demanding teaching and learning, and they envision new instructional guidance to produce it. But nearly the entire corpus of instructional practice weighs against it. For teaching and learning generally are quite traditional. Teachers and students spend most of their time with lectures, recitations, and worksheets. Intellectual demands generally are modest, and a great deal of the work is dull. Only a modest fraction of public school teachers have deep knowledge of any academic subject. Research and experience both show that past efforts to fundamentally change teaching have had modest effects at best. Most often they have resulted in fragmentary adoption of new practices, or translation of new practices into old ones, or both.

Lacking fundamental re-development in and around education, dramatic change in teaching and learning seem unlikely, . An intellectually ambitious system of instructional guidance strikes us as one necessary element, but hardly sufficient. Another key element would be a long-term educational effort aimed broadly at broadening and deepening the education of all Americans concerned with schooling. Still another would be a sustained effort to develop the autonomy and instructional capacities of individual schools.

Each would be an immensely ambitious endeavor. The creation of new instructional guidance arrangements would be an extraordinary research and development task, surely the largest ever in US education. For new examinations would have to be invented, to assess a broader range of academic knowledge and skills than conventional tests. The exams would assess students' skill and knowledge in more diverse ways -- i.e., to write essays in English, to explain and justify answers in chemistry, and to offer varied non-numerical representations of mathematical problem solving. Because such examinations would invite students to use and display a broad range of intellectual competencies (Nickerson, 1989), the results would be difficult and time-consuming to evaluate, especially for a large and diverse population. Such things are possible; approximations can be found here and there in the US and some other nations (Resnick and Resnick, 1989). But they have been little tried in the US, and Americans have little experience in such matters. Specialists are just beginning to invent examples, and a few states are

beginning to experiment with them (California State Department of Education, 1989). A few problems with such exams have been suggested (Porter, 1991), but many others will appear if they actually are developed and used.

New curricula also would be needed for any guidance system keyed to deep understanding of academic subjects. Instructional frameworks would have to be devised, along with curriculum guides that focused attention on key elements of each academic subject. Texts and other materials that effectively opened access to those topics would have to be composed. These materials would have to be accessable to a large and diverse population of teachers and learners, and they would be most useful if designed in a way that teachers could learn from them while teaching, preparing to teach, and reconsidering their teaching. Such materials would be most helpful to teachers and students if subject coverage was integrated across the grades. Though such things seem possible, they are entirely unfamiliar in the US. A few states are just beginning to develop more demanding and thoughful curricula. It seems reasonable to expect that such a novel endeavor would take a long time to develop and longer to mature.

Neither new exams nor new curricula would work unless teachers understood them. As things now stand, most teachers would not. This problem could be solved in part if teachers were extensively involved in building new frameworks, curricula, and assessments, and in grading students' work, for those activities could be extraordinarily educative. But even extensive efforts of this sort would reach only a fraction of the teaching force, and would touch only part of the re-education needs. Another part of the solution might lie in hiring new teachers whose knowledge was much stronger, based on new examinations like those envisioned for students. If intending teachers' grasp of subject matter and pedagogy in academic subjects could fairly be assessed, then competent teachers might be sorted out and hired. And teacher education agencies might adjust their educational programs accordingly. If so, the quality of teaching might be greatly improved over the course of a generation or two. Such examinations do not now exist. The National Board on Professional Teaching Standards is just beginning to develop some exams, and current estimates are that it will take at least three years to produce an initial prototype in a single subject for a grade or two. The hope is that a full set of examinations might be developed by the year 2000, though no-one really knows how long it will take. Here too Americans are relatively inexperienced. It would be prudent to assume that many problems would appear once the exams were developed and used.

Of course written exams are a picnic compared with more direct assessment. It would be much more difficult to create a system in which teachers' pedagogical performance was competently observed, and the results used to improve teaching and inform decisions about professional advancement. Once again, these things are possible; approximations can be found in inspectorates here and there around the world. But they never have been tried in the US.

It would be no mean feat to solve any one of these research and development problems. Solving several at the same time would be even more taxing. But the whole point of many recent reforms is that these instructional guidance problems should be solved jointly, not just simultaneously. Systemic reform implies that assessment of students' and teachers' knowledge ought to be coordinated with each other, and with new curriculum guides and course materials. This is one reason we argue that devising a guidance system to support deep understanding of academic subjects would be an extraordinarily demanding and time-consuming effort.

But changes in instructional guidance would be unlikely to work unless educators and others concerned with education could take advantage of them. To do so Americans would have to learn very different conceptions of knowledge, teaching, learning, and schooling. These would be great and often wrenching changes for teachers, students, parents and public officials. They would have little chance of success unless the entire venture were conceived and executed as a great educational enterprise, one in which state and national leaders had as much to learn as teachers and students. For instance, the more opportunities that administrators, political leaders and parents had to learn about new examinations by participating in their development, in field trials, and in revisions, the greater the chances that the finished exams would be understood, accepted, and used appropriately. But to give many American administrators, parents and politicians such opportunities to learn would greatly complicate, slow down, and alter the development of new exams -- especially if the same opportunities were extended to teachers. It is no surprise that most reform proposals read as though the authors believed that the chief task was to devise new exams, to write new curricula, or to create new governance or organizational structures.

The capacity to take advantage of changes in governance and guidance also would require changes in individual school operations and organization. For it seems unlikely that teachers and administrators could begin to offer the intellectually ambitious instruction that reformers seek unless they had much more

time to learn and work together. It seems unlikely that they could either learn or contribute to the development of a common instructional system unless they had much more time and opportunities to work with teachers and others in education beyond their school. These things seem quite unlikely unless teachers and administrators had considerable autonomy. And that seems unlikely -- especially in a system that would much greater central authority and power -- unless the system were carefully designed to enhance such autonomy, and unless the capacities to exercise it were nurtured. Marshall Smith and Jennifer O'Day have wisely argued that these reforms would require a combination of "bottom-up" and "top-down" change (Smith and O'Day, 1990). But given the present organization of US schools and school governments, and the knowledge and work habits of policymakers, teachers, and administrators, that would be a great change indeed.

When grand visions collide with limited capacities for change the result is either incremental alteration at the margin of institutions and practices, or self-defeating results, or both. It is easy to see, for example, that efforts to streamline government and instructional guidance could easily complicate them instead. For reformers could easily add streamlining mandates and a layer of streamlining agencies to the existing accumulation of mandates and organizations. But they would find it much more difficult to replace the present cluttered and fragmented structure with one that was much simpler and more powerful. Similarly, bypass operations could easily add complexity rather than reducing it. For governments would not sit still. Experience suggests that they would respond to bypass operations by regulating the bypassing agencies, or by finding roles for themselves in interpreting and managing the functions generated by the bypassing agencies, or by taking over the bypass agencies without closing down the authorities that were to have been bypassed, or some combination of the above. In the event, efforts to increase simplicity and clarity might well further complicate and confuse matters.

By the same token, recent reforms could add to the agendas of teaching without fundamentally changing them. Reformers could add mandates for more thoughtful teaching and learning on top of extant mandates for teaching basic skills, informing students about drugs and AIDS, not to mention remedial education, bi-lingual education, pressures for cooperative learning and improving students' self concepts. But they would find it much more difficult to replace the present cluttered and fragmented accumulation of

guidance for teaching and learning with a system that was simpler, more focused, and more powerful. It would be even more difficult to redevelop education in ways that would enable most educators to take good advantage of such changes.

If politics and teaching ran true to form, then, reformers would be likely to add but not subtract. They could successfully introduce many different schemes to make education more consistent, but would be less likely either to produce consistency among those schemes, to greatly reduce the clutter of previous programs and policies, or to fundamentally change teaching. If so, current efforts to reduce fragmentation would only add several new and unrelated layers of educational requirements and instructional refinements on top of many old and inconsistent layers. The new ideas would have their day, but only at the expense of further clutter and inconsistency.

Inductions from experience are of course limited, and dramatic change is always possible. What would it take to produce it? While that is a different essay, we have sketched some elements of an answer in the pages just above. An ambitious and expensive program of research and development would be required for some parts of the work. An extraordinary program of professional and popular education would be required for others. And a broad effort at institutional development and redevelopment would be required for still others. Educators would have to greatly complicate their own professional and private lives by cultivating unfamiliar and uncommon capacities. Policymakers would have to support them, which would take uncommon political comittment. We suspect that reformers also would have to broaden their attention, from structural change in school systems to changing the social circumstances and culture of education. That would entail the invention of new social networks in which business firms and schools could set criteria for hiring, exchange information about candidates, and deal with many related issues. Similarly basic changes also would be required in admissions standards in the large middle and lower strata of US higher education.

After a decade of reform discussion it is no longer difficult to imagine these elements of change. But actually doing the work would be taxing, time consuming, expensive, and risky. Moreover, the results would not begin to mature until many elections were past. Hence the people who make policy for education would have to exhibit uncommon restraint. That would entail not only reducing the blizzard of policies and programs that has been sweeping over public education, but it also would require long term and politically

expensive investment in a risky and complex strategy. Legislators, interest groups, and program managers would have to sacrifice many palpable short-term political advantages for uncertain and perhaps even unlikely long-term educational gains. Such changes are conceivable, even possible. But they would require a species of vision and patience that have been notably absent from education policymaking in the US. Such things are imaginable. But they seem unlikely to ensue from the current reform movement, which is centered among education professionals and state and national politicians. In American politics, such changes probably would require a sustained mass movement for educational reform, or a prolonged crisis, or both (Morone, 1991).

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